

2001 Government Microcircuit Applications Conference

Final Call-for-Papers



Note: GOMAC will continue to be co-located with the HEART Conference in 2001. Both conferences will use the San Antonio Municipal Auditorium as the Conference Center, adjacent hotels, and a nearby military base. Papers will be open to both GOMAC and HEART attendees with the appropriate clearance.

THEME: MICROCIRCUITS TECHNOLOGY: An Enabling Force in the New Millennium

The GOMAC '01 theme recognizes that microcircuits will continue to be an enabler of technological breakthroughs that will drive commerce, communications, healthcare and defense well into the new millennium. We have already seen microcircuits progress from simple devices to small, then medium, then large-scale integrated circuits, then on to subsystems on a single chip. We believe that in the new millennium we will see entire systems on a chip and microelectronics communicating with novel sensors built upon the same manufacturing technologies and materials science. The need for speed and bandwidth, coupled with I/O limitations, are likely to lead towards more use of photonics and wireless communications. It is expected that we will likely see significant increases in automation, robotics, autonomous uninhabited vehicles, etc. that will demand continual breakthroughs in the application of microcircuits technology. Examples of these future applications include wireless homes, intelligent transportation and highways, wearable electronics, and uninhabited combat vehicles. Also, the information explosion will continue for computer systems, the Internet, and wireless personal communications. Government systems will require microcircuits that are faster, more compact, more reliable, and less expensive to meet the challenges of competition and budget constraints. GOMAC '01 will focus both on current technologies and applications to answer these challenges and on needs and opportunities for future growth. In 2001, GOMAC will be reorganized based on recognition that government has a diminishing role in microcircuits technology development but remains both a major applications market and a leading supporter of new technologies that are not yet mainstream. Accordingly, in addition to this general call for contributed papers, we are planning several major focus sessions, panel sessions, workshops and program reviews to be co-located at GOMAC 2001. The suggested topics below reflect current plans for some of these major sessions and we are open to your suggestions on other relevant topics (and suggested organizers). GOMAC '01 plans to have the DoD and other agencies brief future "visions," major thrusts, and initiatives that will set the stage for the sessions which will describe how different technologies are being developed to address these applications during the rest of the conference. Likewise, we will invite industry to share its technology roadmaps and future plans with those attending GOMAC. As always GOMAC '01 will provide a forum for candid classified/unclassified discussions of these and other topics.

Sponsors: Department of Defense (Army, Navy, Air Force), NASA, Department of Commerce (NIST), National Reconnaissance Office, National Security Agency, Department of Health and Human Services, Department of Energy (Sandia National Labs), Defense Advanced Research Projects Agency, Defense Threat Reduction Agency, Advisory Group on Electron Devices, Central Intelligence Agency

As a Government-sponsored conference, GOMAC was established primarily to review developments in microcircuit applications for government systems. In addition to being an ITAR-restricted conference, a Classified Session (Secret) is available for presentations. GOMAC may be used to announce major government initiatives in microcircuits and their application as well as provide a forum for program reviews.

Suggested Topics

- Advanced Packaging
- Design and Simulation
- Digital Receivers and Radar
- Dual-Use Technologies
- High-Speed Computing and Signal Processing
- MEMS and Microsystems
- Microwave/Millimeter-Wave Technologies
- Mixed-Signal Technologies
- Multifunction Systems
- Photonics
- Rad-Hard Electronics
- Space Electronics
- ULSI/WSI
- Wide-Bandgap Technology

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- Abstract and Summary Due: **August 18, 2000**
- Author Notification of Acceptance: **October 20, 2000**
- Camera-Ready Copy Paper Due: **December 15, 2000**

The 35-word abstract, suitable for publication in the Advance Program, should be typed on a separate sheet and include the unclassified title, author's name, affiliation, complete address, telephone number, fax number, and e-mail, if available.

Summaries (1 copy) should be typed in double-spaced format on one side of paper and should not exceed two pages. The heading shall include unclassified title, security classification of the paper, sponsoring organization, contract number, author's name, affiliation, complete address, telephone and fax numbers, and e-mail address. Also, please indicate on the summary page which session/topic area the paper is being submitted for. The author's name and paper title should be placed at the top of subsequent pages. The uniqueness of the paper and the implications of the results should be highlighted. Please send one reproducible copy of your abstract and technical summary to:

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Authors of papers selected for 20-minute presentations (15 minutes plus 5 minutes for questions) at the Conference will be asked to prepare an approximately 2000-word (4 pages) paper for inclusion in the Conference Digest. Attendance at the Conference will be limited to U.S. citizens, immigrant aliens, and Canadian citizens whose organization meets the requirements of the military critical technical data agreement between the U.S. and Canada.

Papers with classification up to the Secret level may be presented at the classified session. Details concerning attendance requirements for the classified session will be announced in the Conference Program.

Post-Deadline Papers: A limited number of late-news papers, reflecting important new developments, will be considered for 10-minute presentations. 100-word abstracts and 300-500 word summaries with pertinent illustrations (suitable for publication) must be received by December 1, 2000.

Paper Awards to be presented are: **Outstanding Paper of the Conference** (award based on audience evaluations of the papers in the technical sessions); one or more **Meritorious Paper** awards for the runners-up; and **Outstanding Paper of the Poster Session**.

Poster Session: GOMAC also includes a Poster Session for those papers that are more suitable for a presentation in a written format. The authors of these papers will be on hand to discuss their work and answer questions. The written papers accompanying these poster presentations will be published in the Conference Digest.

GOMAC papers that are classified, or trade restricted papers of broad interest to the radiation-effects community, may also be submitted to the *Journal of Radiation Effects, Research, and Engineering* (JRERE) for publication. The full paper, cleared for publication, is to be submitted to the JRERE Guest Editor by 26 March 2001 along with your sponsor approval letter (allow 6-8 weeks for such approval). Subject to review, the paper will be published in a HEART Conference issue of the JRERE. Typical paper length is 6-8 pages. The IEEE Radiation Effects Steering Group and the IEEE Nuclear and Plasma Sciences Society ADCOM have approved a process whereby JRERE papers can be published in the *IEEE Transactions on Nuclear Science* once Classification or trade restrictions have been removed.

<http://www.if.afrl.af.mil/announce/gomac>

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